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# **AUTHORITY**

AGO D/A ltr, 29 Apr 1980



711

### DEPARTMENT OF THE ARMY OFFICE OF THE ADJUTANT GENERAL WASHINGTON, D.C. 20310



IN REPLY REFER TO

AGDA (M)

(15 Jun 70)

FOR OT UT 701152

18 June 1970

SUBJECT:

Operational Report - Lessons Learned, Headquarters, Phu Lam

Signal Battalion, Period Ending 31 January 1970

SEE DISTRIBUTION

Subject report is forwarded for review and evaluation in accordance with paragraph 4b, AR 525-15. Information of actions initiated as a result of subject report should be forwarded to ACSFOR OT UT within 90 days of receipt of covering 'letter.

Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

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mueth G. Nackl KENNETH G. WICKHAM Major General, USA

The Adjutant General

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# DEPARTMENT OF THE ARMY HQS, PHU LAM SIGNAL BATTALION (USASTRATCOM) (PROVISIONAL) AFO San Francisco 96243

RGPLMB-S3

4 February 1970

SUBJECT: Operational Report-Lessons Learned of the Phu Lam Signal Battalion for Period Ending 31 January 1970. RCS CSFOR-65 (R2)

TO: SEE DISTRIBUTION

- 1. Section 1 Operations: Significant Activities.
- a. The Phu Lam Signal Battalion BA QUEO Satellite Communications Terminal surpassed the previous world record for continuous operation of an AN/MSC-46 Satellite Terminal by compiling a total of one thousand nine hundred and seventy-six hours (1,976) and fourteen minutes (14) availability before experiencing an equipment malfunction. The previous world record of one thousand eight hundred and ninety-six hours (1,896) and forty minutes (40) was also set by the BA QUEO Terminal. For this outstanding achievement, the BA QUEO Terminal was selected as the most outstanding DCA facility in the Pacific area and nominated by DCA-PAC to DCA as the most outstanding DCA Facility in the Worldwide Defense Communications System.
- b. The Saigon AN/FTC-31 Special Data Quality Switching Facility provided special data quality communications to validated Saigon area subscribers and to visiting Department of Defense dignitaries on an on-call basis. The facility also operated a DCA Network Coordinating Station that provided network control for the entire Special Data Quality System-Republic of Vietnam.
- c. Seventy-four (74) personnel of which twelve (12) were officers and sixty-two (62) were enlisted personnel, representing eighteen (18) organizations, attended the sixth AUTODIN Seminar which was held at Phu Lam in December 1969. The seminar, one of the Phu Lam ASC's most effective programs in providing subscriber assistance, is designed to cover all areas of the ASC in regards to procedures, operations and maintenance.
- d. The Overseas AUTODIN System Efficiency report for the twelve (12) month period of 1969 has been published and has indicated that Phu Lam ASC maintained a 99.8% systems efficiency which was highest among the seven Automatic Switching Centers in the Pacific Overseas Area.

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- e. During the period 28 January 1970 through 24 January 1970, an upgrade of the Phu Lam power system was accomplished. This upgrade provided Phu Lam ASC with back-up commercial power; in the event that Power Plant 1 malfunctions Power Plant 2 can provide the necessary power for the system to operate. In the process of switching from one power station to another during the up-grade the ASC was required to operate on battery power for approximately thirty (30) minutes. This is significant because it was double the capacity specified in the technical manuals. The experience in extended battery power use will aid the OIC Phu Lam ASC in making decisions on when to power down the system if a real hazardous condition exists and no commercial power is available.
- f. The Area Maintenance and Supply Facility assumed the responsibility for supplies and off-site maintenance support for the Mode V terminal effective 10 January 1970. The ASC repair parts and equipment were laterally transferred to the AMSF on 7 January 1970. The ASC will continue to have quality control assistance teams to send to the terminals on a requested basis.
- 2. Section 2 Lesson Learned: Commanders Observation, Evaluation and Recommendation.
  - a. Personnel
  - (1) AN/FTC-31/SEVAC Maintenance Personnel
- (a) Observation: The Saigon AN/FTC-31 Switching Facility has been unable to obtain its authorized quota of school trained AN/FTC-31/SEVAC repairman.
- (b) Evaluation: The MOS for school-trained AN/FTC-31/SEVAC repairmen is 36H with an additional skill indicator of K8. An MOS 36H repairman without the additional skill indicator of K8 is not trained on solid state switching circuitry which is used in the AN/FTC-31/SEVAC Dial Control Exchange. School-trained personnel with MOS of 36H but without the additional skill indicator of K8 are normally assigned to this facility as AN/FTC-31/SEVAC repairmen.
- (c) Recommendation: When schooltrained AN/FTC-31/SEVAC repairmen are not available, that MOS 34D ADPS computer repairmen be assigned to cross train as AN/FTC-31/SEVAC repairmen because of their training on solid state circuitry. It takes a shorter period of time for an MOS 34D repairman to reach job proficiency through on-the-job training as compared to an MOS 36H repairman without the additional skill indicator K8.

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SUBJECT: Operational Report-Lessons Learned of the Phu Lam
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RCS CSFOR-65 (R2)

- (2) Refrigeration Specialists for AN/NSC-46 Satellite Communications Terminals.
- (a) Observation: Refrigeration Specialist 51L are not trained on the type of Air Conditioners employed in the AN/MSC-46.
- (b) Evaluation: Refrigeration Specialist 51L are not qualified to perform anything higher than 2nd echelon maintenance on the air conditioners employed on the AN/NSC-46 because of the high degree of complexity utilized in the control circuitry. Refrigeration Specialists 51L do not have enough background in electric circuit trouble shooting to be crosstrained effectively. This also is true with Refrigeration Specialist at Depot level; therefore, it has been necessary to crosstrain Satellite Equipment Repairmen 261 as Refrigeration Specialists. Because of their extensive training in electronic trouble shooting, Satellite Equipment Repairmen 261 need only be crosstrained on the refrigeration portion of the air conditioners.
- (c) Recommendation: When Satellite Equipment Repairmen 261 are being echool trained a short course in refrigeration be included. The sensitivity of the equipment in the AN/NSC-46 will not tolerate much of a temperature change nor will it tolerate high humidity levels. By training Satellite Equipment Repairmen 261 in air conditioning it will insure that there will always be an air conditioning man on site to cope with any problem that may occur.
  - b. Intelligence: None
  - o. Operations
  - (1) Duplication of Data Surveys
- (a) Observation: Periodically various Departments and Agencies under the jurisdiction of the Department of Defense conduct surveys to compile data that is, beyond any doubt, necessary so that these various Departments and Agencies may be able to respond to any requirement that may be placed upon them by higher authority.
- (b) Evaluation: There is a definite need for periodic surveys in order to determine the following: Where a unit is physically located; what kind of equipment is utilized in what quantities, and in which configuration; what is the units present mission; how many personnel of what MOS's are required and authorized and present; are all these items employed to give maximum capability and/or flexibility?

RGPLNB-83 SUBJECT:

Operational Report-Lessons Learned of the Phu Lam Signal Battalion for Perica Ending 31 January 1970. RCS CSFOR-65 (R2)

In the recent Comsea Data Collection Survey ordered by the Department of the Army over seventy-five percent of all data collected from the Phu Lam Signal Battalion was obtained directly out of the unit file copy of the Credata Report. The Credata Report was ordered by the Defense Communications Agency during the second quarter 1970. This duplication of Data Collection effort was costly both financially and in man hours consumed.

- (c) Recommendation: That Departments and Agencies under the Jurisdiction of the Department of Defense query each other for data prior to conducting Area, Theater or Army wide surveys. The cost both financial and in man hours expended in Data Collection can thereby be greatly reduced.
  - (2) Loss of Secure Voice Communications
- (a) Observation: It has been observed at this station that the KOI-1 and KOI-1A/TSEC Card Reader associated with KG-13 jacks have a tendency to become corroded. This takes place even in a controlled environment to the extent of electrical contact loss and system failure.
- (b) Evaluation: Partial or Total loss of contact due to corrosion will cause difficulty in running up the circuits and cause multiple attempts to be made before synchronization is achieved. This could lead to excessive circuit outage.
- (c) Recommendation: That the KOI-1 and the KOI-1A Card Readers be removed and the jacks be cleaned with a suitable cleaner as part of the scheduled monthly preventive maintenance.
  - (3) Receipt of Telecommunications Service Orders (TSU's)
- (a) Observation: Telecommunications Service Orders (TSO's) received at Phu Lam ASC for circuit activations are incomplete.
- (b) Evaluation: The Telecommunications Service Order is the official source and authority for circuit starts. changes, discontinued actions to be implemented by the Phu Lam ASC. Paragraph six (6) is rarely included upon issuance of a Telecommunications Service Order. Paragraph six (6) contains all channel parameters necessary for update of ASC's program taps, which is normally loaded only on Monday of each week. Lack of this information causes activation delays.
- (c) Recommendations: That Command interest be given to the problem of incomplete and untimely Telecommunications Service Orders.

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SUBJECT: Operational Report-Leasune Leat ad of the Phu Lam
Signal Battalion for Period Ending 31 January 1970.

RCS CSFOR-65 (R2)

- (4) Special Data Quality Narrowband Subscriber Terminals.
- (a) Observation: A common problem with narrowband subscriber terminals is a synchronous inhibit indication while attempting to go secure with the distant party.
- (b) Evaluation: This problem is often traced to the CLA circuit located in the switching and control subsystem by maintenance personnel because the "E" lead of the single frequency unit is generating an improper signal. However, replacement of the CLA circuit board does not correct the fault.
- (c) Recommendation: That the signal being received by the terminal be checked for proper level. If the input signal to the single frequency signaling unit is too high, the signaling unit will generate a false "E" lead detection which is one of the inputs to the CLA circuit board and cause a synchronous inhibit indication.
- (5) PU 495/G Power Generators associated with the AN/MSC-46 Satellite Terminal.
- (a) Observation: There are four (4) PU 495/G power generators associated with an AN/MSC-46 Satellite Terminal of which two are required to be operating on-line at all times IAW normal operating procedures.
- (b) Evaluation: Normal operating procedures requiring two generators to operate in a parallel mode of operation at all times causes each generator to assume approximately 50% of the total load. As a result, fuel injectors on each generator accumulates carbon which gradually reduces the total load capacity of each generator.
- (c) Recommendation: That each generator be loaded to 75% capacity or near to full load as possible for several hours each month to prevent carbon accumulation on fuel injectors.
  - (6) Need for up grade of JOSS back-up power.
- (a) Observation: Commercial power loss results in loss of 130V DC ringing voltage and talk battery circuit plates located in the Dial Central Office.
- (b) Evaluation: Presently the 130V DC is supplied by commercial power (contractor operated station power plant) through a riotrol DC Rectifier system. Loss of AC caused loss of DC power to the circuit plates since this rectifier cannot be powered by the back-up battery system.

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SUBJECT: Operational Report-Lessons Learned of the Phu Lam
Signal Battalion for Period Ending 31 January 1970.

RCS CSFOR-65 (R2)

- (c) Recommendation: A backup 130V DC power source with automatic (NO BREAK) switching for the 130V DC power be provided.
  - d. Organization: None
- e. Training: During the quarter ending 31 January 1970 the Phu Lam Signal Battalion engaged in training and operations a total of ninety-two (92) days.
  - f. . Logistics:
  - (1) Critical within the AUTODIN authorized stockage list.
- (a) Observation: Contractor records indicate that one hundred and thirty-five (135) pinch roller assembly and seventy-two (72) Brush assembly were used during the past year. The ASL is designed to supply parts for six months. The ASL for the two parts mentioned are as follows:
  - (i) 5895-050-1405 Pinch Roller Assembly 30 each (ii) 7440-420-5154 Brush Assembly, Motor 1 each
- (b) Evaluation: The environmental conditions at this ASC have contributed to a higher than normal failure rate of certain parts. These parts are for use in the Tape Transport. The lack of these parts would cause a transport to be deadlined if the item failed. The system has eighteen tape transports; twelve transports are considered essential to run the system. The failure rate of these items is such that system operation could be hampered.
- (c) Recommendation: That the pinch roller level be raised to seventy-five (75) and the brush level to forty (40). The present levels will result in equipment down time and immediate action should be taken to obtain an increased level of these repair parts.
  - g. Communications: None
  - h. Material: None
  - i. Others: None

RGPLMB-S3 SUBJECT:

Operational Report-Lessons Learned of the Phu Lam Signal Battalion for Period Ending 31 January 1970.

RCS CSFOR-65 (R2)

1 Inol

Organizational Structure

LTC, SigC Commanding

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3-CG, USARV, ATTN: DST

1-CG. USASTRATCOM-PAC

2-CINCUSAPAC, ATTN: GROP-DT

SCCPY-RG-PT-MO (4 Feb 70) 1st Ind SUBJECT: Operational Report - Lessons Learned of the Phu Lam Signal Battalion for Period Ending 31 Jan 70, RCS CSFOR-65 (R2)

Headquarters, USASTRATCOM Regional Communications Group (Vietnam), APO 96243, 28 February 1970

- TO: Assistant Chief of Staff for Force Development, Department of the Army, Washington D.C. 20310
  Commanding General, 1st Sig Bde (USASTRATCOM), ATTN: SCCPV-OP-AD, APO 96384
- 1. Subject report is forwarded in accordance with AR 525-15.
- 2. This headquarters has reviewed the report and basically concurs with it.
- 3. Following are corrections and/or comments concerning referenced paragraphs:
  - a. All pages, except the cover page, should be numbered.
- b. Section 2, Lessons Learned: Para 2f(1), Page 5: Critical within the AUTODIN authorized stockage list If the ISL were designed to supply parts for six (5) months as stated in Phu Lam's observation, then a simple computation of stockage level in accordance with para 13-13, AR 611-16, would prescribe stockage levels of 68 pinch rollers and 36 brush assemblies. Since Phu Lam's ASL is based on a 60 day supply level, the computation of stockage quantity provides 32 and 12 items respectively. There is no indication in Phu Lam's report that 60 days allows insufficient order and ship time. If an increase in quantity (above the 60 day level) is critical to the mission, then the installation commander may authorize the increased quantity. Phu Lam Signal Battalion will be instructed as such by this headquarters.

WILLIAM D. LEWIS

W- Hein

LTC, SigC

Deputy Commander

SCCPV-OP-AD (4 Feb 70) 2d Ind SULJECT: Operational Report - Lessons Learned of Headquarters, Phu Lan Signal Battalion for Period Ending 31 January 1970, RCS CSFOR-65 (R2)

DA, Ha, lat Signal Brigade (USASTRATCOL), APO 96384 10 Murch 1970

TO: Commanding General, United States Army, Vietnam, ATTN: AVHGC-DST, APO 96375

- 1. Subject report is forwarded in accordance with AR 525-15.
- 2. The following comments are made:
- a. Reference item "Receipt of Telecommunications Service Orders (ToO's), Para 2c(3), Page 4: Failure to receive para 6 of TSO has been discussed with DOA-Sali. DCA-Sali has conducted a complete review to insure para 6 (channel and light number parameters) is issued with the TSO. The new procedure is working Patisfactorily. No further action required.
- b. Concur with para 30, 1st Indorsement except that part as reads "in accordance with para 13-13, AR 611-15" should be changed to read "in accordance with para 13-13. AR 711-16."

FOR THE COMMANDER:

0. V. LOHERALE hajor, AGC adjutant General

GF:

Commanding General, U. S. Army Strategic Communications Command, Arms: SCC-OPS-RT, Fort Buschuca, arisona £5513
Commanding Officer, USA Regional Communications Group, APO 95243
Commanding Officer, Phu Lam Signal Eattalion, ar0 95243

AVHGC-DST (4 Feb 70) 3d Ind

SUBJECT: Operational Report-Lessons Learned of the Phu Lam Signal

Battalion for Period Ending 31 January 1970. RCS CSFOR-65 (R2)

Headquarters, United States Army, Vietnam, APO San Francisco 96375 29 MAR 1970

THRU: Commanding General, United States Army Strategic Communications Command-Pacific, APO 96557

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT, APO 96558

1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 January 1970 from Headquarters, Phu Lam Signal Battalion (USASTRATCOM) (Provisional) and concurs with the comments of indorsing headquarters.

#### 2. Comments follow:

a. Reference item concerning "Telecommunications Service Orders (TSO's)", page 4. paragraph 2c(3): concur. MACV's assistance has been requested which should insure timely response of TSO's issued by DCA-SAM.

b. Reference item concerning "Need for Upgrade of JOSS back-up power", page 5, paragraph c(6): concur. Equipment required to allow continued 130V DC ringing voltage and power to talk battery circuit plates is contained on existing BOM for the Phu Iam JOSS Station Battery Project (Class IV). The 1st Signal Brigade CSEMA has requested USASTRATCOM-PACFO to expedite the RVN delivery of BOM items for this project. Station batteries have been deleted from the BOM requirement due to in-country procurement. USARV C-E has requested a 1st Signal Brigade follow-up message to PACFO to determine EDD of required ancillary equipments for emergency back-up station battery (PIM).

FOR THE COMMANDER:

C. E. MICHEL

Assistant Adjutant General

Cy furn: HQ, ist Sig Bde HQ, Phu Lam Sig Bn SCCP-0P3 (4 Feb 70) 4th Ind
SUBJECT: Operational Report - Lessons Learned of the Phu Lam
Signal Battalion for Period Ending 31 January 1970
RCS CSF0R-65 (R2)

Headquarters, United States Army Strategic Communications Command-Pacific, APO San Francisco 96557 23 APR 1970

- TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT. APO 96558
- 1. Subject report is forwarded in accordance with AR 525-15.
- 2. This headquarters has reviewed subject report and offers the following comments:
- a. Reference paragraph 2c(5), page 5, basic report:
  Concur with recommendation to improve operation and reduce
  maintenance (and repair) requirements of PU 495/G Power
  Generators by loading generators to a minimum of 75 percent
  of their capacities. However, recommend that this loading
  be continuous as practicable in lieu of several hours each
  month. In order to accomplish this, recommend that portable,
  variable load banks be furnished with the AN/MSC-46 terminals.
  The total capacity of the load banks should be at least equal
  to the capacity of one diesel generator unit. This will
  provide for periodic testing of the diesel generator under
  load without jeopardizing the communications operation.
  Recommend that this item be referred to the SATCOM Agency for
  further evaluation and consideration for adoption.
- b. Reference paragraph 2c(6), pages 6-7, basic report and paragraph 2b, 3d Indorsement: The Bill of Materials to furnish the Phu Lam JOSS station battery upgrade has been DA OTAG published and all material for the project has been obtained and shipped to Southeast Asia except for the 20-cycle ringing generator which operates from the 48V battery supply. U. S. Army Communications System Agency anticipates that this item will arrive at Sacramento Army Depot on the 17th of April with anticipated shipment to the Pacific Field Office (PACFO) ten days later.

SCCP-OP3

23 APR 1970

SUBJECT:

Operational Report - Lessons Learned of the Phu Lam Signal Battalion for Period Ending 31 January 1970 RCS CSFOR-65 (R2)

c. Concur with the remainder of the report as indorsed.

FOR THE COMMANDER:

FRANK C. MAHIN
COL, GS
Chief of Staff

CF:

CG, USARV, APO 96375 (wo incl)

CG, 1st Sig Bde (USASTRATCOM), APO 96384 (wo incl)

CO, Regional Comm Gp (USASTRATCOM), APO 96243 (wo incl)

CO, Phu Lam Sig Bn (USASTRATCOM), APO 96243 (wo incl)

GPOP-DT (4 Feb 70) 5th Ind

SUBJECT: Operational Report of HQ, Phu Lam Signal Battalion for Period Ending 31 January 1970, RCS CSFOR-65 (R2)

HQ, US Army, Pacific, APO San Francisco 96558 \$7 APR 70

THRU: Commending General, US Army Strategic Communications Command, Fort Huschuca, Arizona 85613

TO: Assistant Chief of Staff for Force Development, Department of the Army, Washington, D. C. 20310

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:

D.D. CLINE 2LT, AGC

Asst AG

CF:

DA, ACSFOR

CG, USASTRATCOM-PAC

SCC-PO (4 Feb 70) 6th Ind

SUBJECT: Operational Report of HQ, Phu Lam Signal Battalion for Period Ending 31 January 1970, RCS CSFOR-65 (R2)

HQ, US Army Strategic Communications Command, Ft Huachuca, AZ 85613 MAY 1970

TO: Assistant Chief of Staff for Force Development, Department of the Army, Washington, D. C. 20310

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER:

for Maj. AGC
Asst Adj Geo

RGPLMB-S3

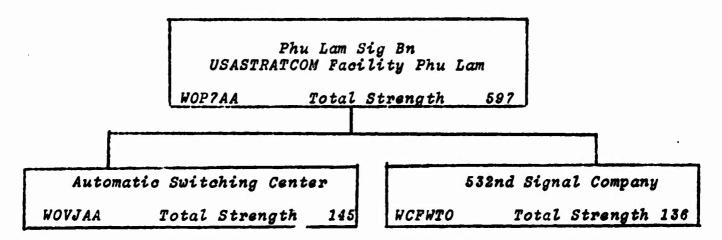
4 February 1970

SUBJECT:

Operational Report-Lessons Learned of the Phu Lam Signal Battalion for Period Ending 31 January 1970.

RCS CSFOR-65 (R2)

## Organizational Structure



UNCLASSIFIED Security Classification DOCUMENT CONTROL DATA - R & D (Security classification of title, body of obstract and industing annotation must be entered when the everall report is classified)

1. GRIGINATING ACTIVITY (Corporate author)

[20, REPORT SECURITY CLASSIFICATION 20. REPORT SECURITY CLASSIFICATION UNCLASSIFIED HQ, OACSFOR, DA, Washington, D.C. 20310 26. GROUP S. REPORT TITLE Operational Report - Lessons Learned, HQ, Phu Lam Signal Battalion 4. DESCRIPTIVE NOTES (Type of report and inclusive dates) Experiences of unit engaged in counterinsurgency operations, 1 Nov 69 to 31 Jan 70.

6. AUTHORIS: (Pirot needs, middle initial, lest needs) CO, Phu Lam Signal Battalion S. REPORT DATE 76. TOTAL NO. OF PAGES 76. NO. OF REFS 4 February 1970 . ORIGINATOR'S REPORT NUMBER(5) A. PROJECT NO. 701152 N/A Sb. OTHER REPORT NOIS) (Any other numbers that may be exalgred this report) 10. DISTRIBUTION STATEMENT 11. SUPPLEMENTARY NOTES 12. SPONSORING MILITARY ACTIVITY N/A OACSFOR, DA, Washington, D.C. 20310 13. ABSTRACT

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Tallie Sylvenia

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